

Reflective Packaging

Consumer/Home/Recreation

When things got a bit slow in commercial real estate, Richmond (Virginia) developer David Shea turned his developmental talents in another direction. He saw a market for superinsulated containers that would allow safer shipment of perishable products, and he saw a way of making them: by adapting NASA's radiant barrier technology.

Over the years NASA has developed a number of methods for protecting astronauts, instruments and on-

board equipment in spacecraft subjected to temperatures that may range several hundred degrees above and below zero Fahrenheit. Among them is a highly effective radiation barrier, made of aluminized polymer film, that allowed Apollo astronauts to work in shirtsleeves inside the Apollo Command Module. The film barred — or held in — heat to maintain an even temperature in an environment where ordinary insulation would not have sufficed.

This technology has been employed on virtually all spacecraft, including unmanned spacecraft whose delicate instruments need protection from extremes of temperature. It has also spawned a broad variety of spinoff applications, from home insulation to candy wrappings to David Shea's new radiation-reflecting containers.

Beginning in November 1992, Shea set up a "laboratory" in his dining room and began experimenting with aluminized thermal reflective materials. "I used cans of beer and tried to keep them cold," he says. "After many, many attempts at package design, I found a way to make it work."

Shea formed a company — Radiant Technologies, Inc. of Richmond — to market the barrier material and found other companies to supply him the component materials. His barrier is usually made of layers of aluminized foil that serve as liners for reusable shipping bags, cartons or pallet covers. The packaging reflects outside heat away from the product inside the container. As a product demonstration, Shea arranged with the Department of Defense to send 12 very large bags of ice cream to Sun-baked Somalia for U.S. troops' Fourth of July celebration. The bags were 120 hours en route but the ice cream arrived frozen.

Radiant Technologies' business is beginning to take off. The company's initial product line, in addition to the aluminized shipping bags, includes pallet covers, food cart covers (**photo**) and medical bags. The pallet covers, being used by major food distributors, are large, nylon coverings with a layer of radiant barrier material between the inner and outer surfaces; they are used to seal entire palletized loads. The medical bags are soft, "tote" style bags, light and strong, very effective for moving temperature sensitive medical products such as tissues (a shipment of ostrich eye lenses was brought to the U.S. from Israel). Shea's company is also developing a new line of aluminized liners, express mailers, large shipping bags, gel packs and insulated panels for the building industry.

